

THE HELLENISTIC CHORASMIAN *KETOS* OF AKCHAKHAN-KALA

BY

Michele MINARDI

(University of Bordeaux, Ausonius UMR 5607 CNRS, 33607 Pessac, France¹
Member, Karakalpak-Australian Expedition to Ancient Chorasmia (KAE)

Abstract: This paper deals with a fragmentary unbaked-clay modelled sculpture unearthed at the site of Akchakhan-kala by the Karakalpak-Australian Expedition to Ancient Chorasmia (KAE) during the 2007 field season. The modelled sculpture represents a *ketos*, the marine creature of ancient Greek mythology. The style and iconography of the Chorasmian *ketos* perfectly fit the artistic canon developed for the representation of this figure in the Hellenic west since the 6th century BC and further during the late Classical and Hellenistic periods. Chronologically, being dated between the 1st century BC and the 1st century AD, the Akchakhan-kala specimen is one of the earliest preserved Hellenistic marine monsters of Central Asia. The two fragments relative to this *ketos* have already been considered by the author in a recently published book of 2015. The aim of the present article is to ponder the specimen more in detail against the background of Ancient Chorasmian archaeology with further analysis of its artistic, religious and historical implications.

Keywords: Ancient Chorasmia, Central Asia, Akchakhan-kala, Hellenistic art, *ketos*, river goddess

Introduction: historical context

A fragmentary unbaked-clay modelled high-relief depicting a *ketos* has been discovered during the archaeological operations of the KAE at the Ancient Chorasmian *gorodishche* of Akchakhan-kala² in 2007. The

¹ The author's postdoctoral project is linked to a biennial (2014-2015) fieldwork in Ancient Chorasmia which has received financial support from the French State in the frame of the "Investments for the future" Programme IdEx Bordeaux, reference ANR-10-IDEX-03-02. The KAE, a joint project of the Uzbek Academy of Sciences, Karakalpak branch, and the University of Sydney, is supported by the Australian Research Council.

² In earlier publications the site of Akchakhan-kala (also spelled Akshakhan-kala) was called Kazakl'i-yatkan. The name has been changed from this local one to the name registered in the official heritage record of Uzbekistan.

modelled sculpture is composed of two fragments which are the head and the terminal portion of the coiled tail of the creature (Pls. 4-5). The elongated canine head, characterized by a bulging eye, exposed red gums and white fangs, measures ca. 30x12 cm and it sticks out ca. 9 cm from the wall to which it was joined. The round-shaped fragment relative to the coiled tail of the creature measures ca. 47x45 cm and it is characterized by black dots painted on its white surface and by the over-painted red terminal part of the tail ending with a black fin.

Ancient Chorasmia was an ancient Iranian Central Asian polity mentioned in the “Young” Avesta (*Yasht* 10, the Hymn to Mithra) and also attested among the Persian “nations” of the Achaemenid royal inscriptions (DB, DSe, DPe, DNA and XPh; and by the captions regarding the “nations” submitted by the kings of kings on their royal tombs: DNe and A2Pa). Among archaeologists Chorasmia is primarily known for the archaeological endeavours of the Soviet “Khorezm Expedition” (KhAEE)³ led by S. P. Tolstov (1907-1976) that rediscovered in the 20th century the Chorasmian culture, extensively publishing reports and monographs on the subject (Tolstov 1948a, 1948b, 1962. For a full KhAEE bibliography, see Minardi 2015a). The Ancient Chorasmian territory, correspondent to modern Uzbekistan (Republic of Karakalpakstan and District of Khorezm), and northern Turkmenistan (District of Daşoguz), is located on the lower reaches of the Amu-Darya (the Greek Oxus), south of the Aral Sea, and it is surrounded by the Kizil-kum and Kara-kum deserts, thus relatively isolated as an “oasis” if compared to other Central Asian polities at its south (Pl. 1).

The area is characterised by a flat landscape (excluding the rocky ridge of the Sultan-uiz-dag) and it is marked by the presence of numerous ancient fortified strongholds (the *gorodishche* - Khozhaniyazov 2005), and of extensive canalisation works (Andrianov 1969). These elements, new on the background of the local Iron Age, only appear *de facto* for the first time in the 6th century BC due to an Achaemenid intervention in the area probably through the major Central Asian satrapy of Bactriana (Minardi 2015a). Chorasmia, for its position between sedentary Central Asia and the northern steppes inhabited by the semi-nomadic population known by the Persians as *Sakā* (oriental Scythians), had always played an important role

³ “Chorasmian Archaeological-Ethnographical Expedition, division of the USSR Academy of Sciences”.

as intermediary between these two “worlds” and it was strategic for the Achaemenid policy in the region (Minardi 2015a with literature).

Chorasmia’s history was thereafter a history of local developments (characterized by a peculiar conservatism as attested for instance by the use of its centuries-long local era, or by the preservation of the Imperial Aramaic as script for its language up to the 8th century AD - Livshits and Lukonin 1964; Livshits and Gudkova 1967; Livshits 1968; 1984; 2003; 2004; MacKenzie 1983; 1991) that took place in a chronological continuum up to the beginning of the 8th century AD with the Arab advent in Central Asia (Minardi 2013 with references). On the other hand, Chorasmia partook in the events involving Central Asia such as its fall under the influence of the Hellenistic civilisation in the aftermath of Alexander *anabasis* and with the Seleucid rule, although, unlike its southern neighbours, the polity only progressively accepted some Hellenistic innovations in various fields, from material culture — including the *kotos* discussed here — to architecture⁴. Only later, in the 2nd century AD, was Chorasmia fully integrated in a trading and exchange network with the rest of Central Asia as the material culture of Toprak-kala points out (as already noted by Tolstov 1962: 226; on Toprak-kala, see Nerazik & Rapoport 1981; Rapoport & Nerazik 1984).

Since 1995 Akchakhan-kala is the Chorasmian *gorodishche* at the centre of the Karakalpak-Australian Expedition to Ancient Chorasmia (KAE) archaeological activities in the Uzbekistan, Autonomous Republic of Karakalpakstan, led by A.V.G. Betts, University of Sydney, and V.N. Yagodin, Institute of Humanities, Karakalpak branch of the Uzbek Academy of Sciences. This site, which most likely was a royal Chorasmian seat between the 2nd century BC and the 2nd century AD as confirmed by epigraphic evidence (Betts & Yagodin pers. comm.; on the C14 dating, see Betts *et al.* 2009; 2015), is characterized by two mud-brick fortified enclosures, the upper and lower ones (Pl. II)⁵. The upper fortification wall encloses and protects two main structures: the Ceremonial Complex (Area 10) and the Central Monument (Area 07 – Minardi & Khozhaniyazov

⁴ For example only one Chorasmian site gave evidence of terracotta antefixes and tiles (Kaladzhik-tepe, see Zav’yalov 1996).

⁵ For references on the chronology of the site, and about the KAE archaeological activities at Akchakhan-kala and more in general in the Tash-k’irman area see, Helms & Yagodin 1997; Helms *et al.* 2001; Helms *et al.* 2002; Betts & Yagodin 2008; Betts *et al.* 2009; Kidd and Betts 2010; Minardi & Khozhaniyazov 2015.

2015). The Ceremonial Complex (Pl. 3), which since its 1st century BC - 1st century AD stage mainly consists in a fortified parallelogram-planned building characterized by monumental accesses, a corridor developed along its perimeter, a columned hall and an altar area, was decorated with wall paintings (Kidd *et al.* 2004; Kidd 2006; Yagodin *et al.* 2009; Kidd & Betts 2010) and unbaked-clay sculptures. The most recent discovery related to this evidence is a remarkable larger than life-size representation believed to be of the Zoroastrian god Srōsh painted on the southern wall of the Columned Hall (Pl. 3, fragments nos. 66 A-F) that testifies the cultic role of the complex and indicates a new perspective on Zoroastrianism in Ancient Chorasmia (Betts *et al.* 2015)⁶.

The sacred role of the complex is also underlined by the discovery of a fire altar (of which a fragmentary ivory leg was found — Kidd 2011: fig. 8 a-b; Minardi 2015a: 109-110, fig. 27) and by the presence of our *kotos* that was found south of the same altar (Pl. 3). The fragments of *kotos* lay in the clay contexts overlying the floor level of the area along with other unpublished unbaked-clay fragments which were left *in situ*; since then the Main Altar Area has not been further investigated.

Iconography and style of the *kotos* and of similar creatures

It is here assumed that the fragmentary unbaked-clay relief from Akchakhan-kala represents a *kotos*, a sea-monster of western origin in its standardized 5th century BC western iconography. The Hellenic representation canon of this sea creature — which will last up to the Middle Ages and goes even beyond — is marked by the occurrence of a serpentine body with a fish tail and fin, a long corrugated muzzle often with upturned and elongated snout, and a spiked crest covering the serpentine body often departing from its head⁷. The head is normally dog-like, although

⁶ See also Betts & Yagodin 2008 and for some preliminary considerations on Chorasmia within the Avesta and Zoroastrianism, see Minardi 2015a: 11-12 with literature.

⁷ Boardman 1986; 1987; 1997. The dog's head and the coiled tails are also attribute of Scylla/Skylia (Jentel 1997) and sometimes *kētē* are depicted as Scylla's tails, as for example in a 4th century BC Apulian pilgrim flask (Jentel 1997: fig. 50b), and in the Scylla of Morgantina (3rd century BC - Guzzo 2003: 51, fig. 16). Note that the head of the *kotos* is remarkably distinguished from the typical dogs' *protomai* of the female monster. The same coiled or uncoiled tails are attested in other marine creatures, from Nereus to hippocampi.

with some variants which confers to the monster a closer resemblance to a dragon or a crocodile⁸. In the western Greek and Graeco-Roman world, the *ketos* is a sea-monster generally associated with marine divinities and so with their mythology, and it appears for instance in the Homeric story of Thetis and the Nereids with Achilles' weapons, it is the main character of the myth of Andromeda and more in general it belongs to the marine *thiasos* (for further reference, see Icard-Gianolio & Szabados 1992; Boardman 1997; Barringer 1998; Ogden 2013a; 2013b).

The Akchakhan-kala specimen (Pls. 4a & 4b) follows this “guidelines”, and its head is elongated and canine-like, moreover characterised by exposed red gums, long white fangs and a pathetic expression of the eye which looks upright. The muzzle is not upturned but the nostril is protruding. The eye is also bulging and outlined by a black line. This latter outline, together with the other short black lines departing from the eye-socket in a sort of radial pattern, represents the wrinkles of the monster's skin. The shadows under the eye are also represented. The *ketos* was depicted with a semi-opened mouth and part of its red tongue is still visible, although partially covered by the first monster's big white fang. All the details of the relief are painted over the white gypsum coat applied to the modelled clay base, with the exclusive use of black and red colours as in most of the Akchakhan-kala wall-paintings. Unfortunately the clay element which protrudes at the back of the *ketos* head is in a poor state of preservation. Nevertheless this portion of the sculpture can be integrated on the basis of some of the torque terminals worn by the “portraits” of the Akchakhan-kala wall paintings (fig. 6 - *infra*) that clearly depict a more stylised *ketos* with a flaming tongue: this is the ear(s) resembling fins, another characteristic that matches some western representation of *kētē* (*infra*). Whether a spiky fish-fin covered the high-relief parts of the *ketos* (head and body) is currently not ascertainable, although this element could have been possibly painted directly on the wall on which the *ketos* was placed.

What remains of the monster's body is part of its coiled tail (Pl. 4b). The skin of the *ketos* is characterized by black dots, once again painted on

⁸ Cf. for instance the two Tarentine rhyta in Hoffmann 1966: Pl. XLIII, one in the shape of a dog's head, the other in shape of *ketos'* head. The only noticeable difference among the two consists in the presence of a crest on the *ketos*. The *ketos* formed within the Greek art from parts taken from different animals such as sea-horse, boar etc. (for further details, see Boardman 1997).

the white standard background. Other over-painted details are the red terminal part of the tail, which continues inside the black cavity of the coil to express the flabby abdomen of the beast (as in reptiles), and its all-black terminal fin, unfortunately not fully preserved. Black is also the round line that encircles the central cavity of the coil and goes underneath the red final part of the tail.

The first “explicit” *ketus* appears (so is labelled) in the 2nd quarter of the 6th century on a Corinthian black-figure hydria from Caere (Rusillo & Papadopoulos 2002: 207, fig. 19). At the end of the same century - beginning of the 5th century BC the *ketus* is on the coinage of Kindya (Caria - Kagan & Kritt 1995)⁹. Since then, and for the Classical period especially on red-figure vases, the depiction of *kētē* multiplies and varies (as regards its muzzle, shaped as different animals), and a more standardised dragon-like *ketus* with several small-razor teeth and with an elongated snout seems to be well established in the 4th century BC¹⁰, an iconography which will last for centuries and go beyond the end of Antiquity¹¹.

⁹ Later, during the 5th century BC *ketus* appears also on the numismatic emission of Agrigento and Syracuse (Sicily - Arnold-Biucchi 1990), and in the 4th century BC in Greece at Corinth and Itanos (Crete - as already noted by Boardman 1987). For further details on the genesis of the *ketus*, see Robinson 1946: 360-368. See also Boardman 1986, 1987 and 1997 with references.

¹⁰ See the following examples in chronological order: the 4th century BC *ketus* incised on a Prenestine cyst held in Karlsruhe (Schumacher 1891: Pl. III.), the *kētē* with nereids painted in an early 4th century BC marble *podanipter* found at Ascoli Satriano (Bottini & Setari 2009: 45, with a detail at 47), the mosaic with *ketus* from the *Casa del Drago* of *Kaulon* (Monasterace, 4th-3rd century BC - Giustozzi *et al.* 2013: 213, no. 2), the *kētē* on Hellenistic jewelry of the first half of the 3rd century BC (Hoffmann and Davidson 1966: 51-52, figs. 1a-2a; 180, fig. 68), the Hellenistic Etruscan urns of mid-3rd-1st centuries BC with mythological and stand-alone representations of this sea-monster (Körte 1916: Pl. 30, no. 3; Pl. 31, nos. 5-6; Pl. 33, no. 11; Pls. 147-148; Pl. 149, no. 11; *ketus* represented only by his head: Körte 1890: Pl. 39), the Hellenistic relief of the “altar” of Domitius Ahenobarbus (*terminus ante quem* 107 BC - Bianchi Bandinelli & Torelli 1976: no. 42; Coarelli 1968), the Tellus relief of the neo-Attic *Ara Pacis Augustae* (inaugurated 9 BC), the Portland Vase (Augustan age - Haynes 1975; Simon 1986: 162-165; Walker 2004), and the *ketus* within a panel of the pedestal of the Jerusalem’s menorah in the relief of the Arch of Titus built by Domitian (for further details, see Yarden 1991). For other examples and references, see Boardman 1987 and 1997. Furthermore, it seems that in Greek art the prevalent representation of the marine *thiasos* (which usually includes *kētē*) since the 4th century BC was a sculptural one, influenced by a group of Skopas (Lattimore 1976).

¹¹ E.g. for the 3rd century AD, Jonah swallowed by the whale (a perfect *ketus*) in the group of marbles of the Cleveland Museum (illustrated in Wixom 1967: figs. 25-28; Wischmeyer 1981: Pls. 3-4), and the Romano-Hellenistic medallions from Aboukir and

The pictorial consuetude of rendering the upper part of the tails of sea-monsters (not only of *kētē*) on red-figure vases of the 5th and 4th centuries BC with dots (as a “leopard skin”), separated from the abdomen by black contour lines that follows the sinuous development of the tails, found a striking parallel in the Chorasmian *ketos*. A series of South-Italian “plastic” vases of the 4th century BC depicting the struggle between a crocodile (main inspiration for the creation of the *ketos* type) and a pigmy (see Hoffmann 1997: 156-157), which are based on Attic models of the 5th century by Sotades (mid-5th century BC - *ib.* 19-33), perfectly show this iconographic characteristic (fig. 4), as well as some Apulian vases of mid-4th century BC with Nereids on *kētē* and hippocampi (e.g. the Ruvo group — see conveniently the examples published in Icard-Gianolio & Szabados 1992: nos. 342 and 343; see also the red-figure Apulian amphora held at Staatliche Museen zu Berlin, Antikensammlung reproduced in Barringer 1998: Pl. 116), and of the 2nd quarter of the same 4th century (e.g. Jentoft-Niesen & Trendall 1991: Pls. 179, 181, 193-195). In some other and contemporary cases the scales of the monster are represented in different manners, more or less naturalistic or schematic, but often in Greek vase painting snake and reptile skin is given by dots¹². A 4th century BC gold plaque from the Kul-Oba kurgan (Crimea - Artamonov 1969: no. 256 — here fig. 1) in shape of a *ketos* with a boar-like muzzle of Eastern Greek craftsmanship, show both the naturalistic and dotted scaled-skin, used the first for the body of the marine snake, the latter for its forepart¹³. A similar visual device has also been used to represent the skin of crocodile-*ketos* in a Hellenistic Central Asian spiral gold bracelet, although vice-versa its forepart is scaled whilst its tail is the dotted one (Bernard & Bopearachchi 2002, in particular see figs. 4-6), and during the 1st century AD in Gandhāra the fish-body of ichthyocentaurs are decorated in the same way (Czuma 1985: 178, no. 91)¹⁴.

Tarsos (see Dahmen 2008: Pl. 106 N). For an example relative to the 5th century AD, see the marine creatures in the ivory diptych of “Artemis - Dionysos” (Delbrueck 1929).

¹² At Olynthus the mosaic with *kētē* and Nereids from the Villa of Good Fortune dated by the excavator at the end of the 5th century BC (Robinson 1933: 109-115, Pls. I-X; 1934; 1946: Pl. III - contra Saltzmann 1982: ca. 370-360 BC) shows a sea-creature closer to an hippocampus than a dog or a dragon, where the dots are vice-versa used to represent the abdomen of the fantastic beasts.

¹³ From the kurgan of Kul-Oba, see also the gold scabbard with *ketos*/hippocampus (Schlitz 1994: no. 231).

¹⁴ Cf. with the much stylized “toilet tray” no. 43 in Francfort 1979.



Fig. 1. Gold applique in shape of *ketos* from the Kul-Oba burial mound (after Piotrovskii 1973-1974: Pl. 15)



Fig. 2. The Hellenistic *ketos* from Canosa di Puglia
(after Becatti 1955: fig. 447b).



Fig. 3. Detail of the Hellenistic *ketos* from Canosa di Puglia (after Becatti 1955: fig. 447a).

The closest parallel among the Hellenistic western specimens of *kētē* with our Chorasmian sea-monster is the one from Canosa di Puglia depicted on a gilded pyxis of 3rd century BC (figs. 2-3) which I have already considered in a previous work (Minardi 2015a). The canine marks of this *ketos*' head without a curled nostrils/upright nose and with an open mouth with exposed gums with few large fangs and a deep-socketed pathetic eye, are the same ones visible on the Akchakhan-kala *ketos* (with the likely addition of the fin-shaped ear located at the back of the animal's head). Even the single-coiled body development of the Hellenistic *ketos* can be compared with the likely aspect of the Chorasmian specimen (cf. e.g. Icard-Gianolio & Szabados 1992: no. 362, early 4th century BC), although tails of marine creatures already in the 4th century BC can be both coiled or not (e.g. marble vase from Rhodes, Barringer 1994: Pl. 45). The coil, moreover, although represented with a scaled and not "dotted" skin, shows a very similar division in zones separated by lines (here incised) and a very similar superimposition of the final part of the tail (shorter in the Chorasmian case) over the coiled part of the snake-shaped body. The style of the two figures, in particularly as regards the head of the monster, is



Fig. 4. Red-figure rhyton from southern Italy (manner of Sotades, The Metropolitan Museum of Art, Rogers Fund, 1955; acc. no. 55.11.3 - www.metmuseum.org).

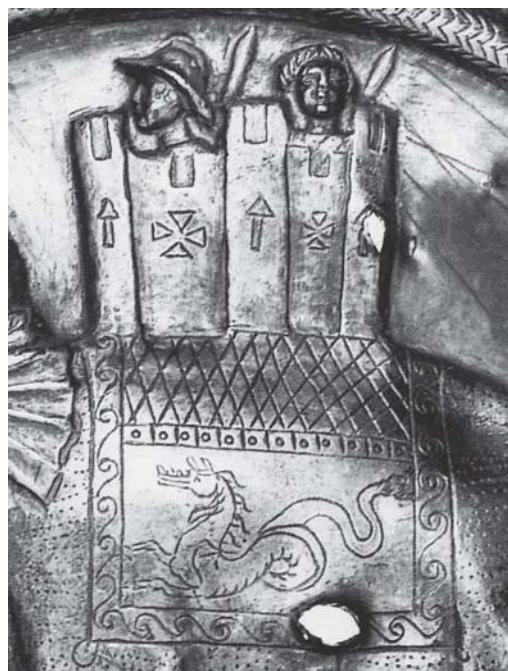


Fig. 5. Detail of Bactrian *phalera* with depiction of a war elephant (after Seipel 1996: 261, fig. 126).

quite close despite the different medium and historical environment, while the tail of the Chorasmian *ketos* seems more locally interpreted.

In Central Asia the oldest known representation of the Hellenistic *ketos* is the renowned detail that decorates the saddle of a Bactrian war-elephant (fig. 5), ascribed to the mid or late 2nd century BC (Pfrommer 1983: 10; mid-2nd century BC - Treister 1999). The beast here tends to look more equine if compared to the Akchakhan-kala specimen, but the presence of crocodile-like wrinkling on the long muzzle brings it back closer to the standard dragon/dog-like creature (cf. with the *ketos* on the carved mantel from the Temple of Despoina at Lycosoura by the Neoclassicist sculptor Damophon, 1st half of the 2nd century BC - Lattimore 1976: fig. 19). Another *ketos* classified as “Bactrian” is currently held in the collection of the Miho Museum and dated in the 2nd century BC¹⁵. This last example has a canine head with a straight muzzle that can be compared with the Chorasmia *ketos*’ head, as well as its similar single-coiled body ending with a fish-fin, although this curls - on the contrary of the Chorasmia specimen - behind the body of the creature. Additionally, there is the aforementioned Hellenistic gold bracelet form Bactria (Bernard and Bopearachchi 2002) which dates in the mid-2nd - 1st century BC. Thus it seems that the Chorasmian sea-monster is one of the oldest (1st century BC - 1st century AD) of the whole area and, as far as I know, almost the only one preserved as a (modelled) sculpture, if we exclude a Late Antique *makara* represented in a unbaked-clay bas-relief of Pendjikent and some other secondary decorative elements depicting dragons from Sogdiana (see Belenitskī & Meshkeris 1986)¹⁶.

¹⁵ Image and catalogue entry available at: <http://www.miho.or.jp-booth/html/artcon/00003372e.htm>.

¹⁶ In Pendjikent (Sogdiana) an unbaked-clay relief of Hellenistic taste set in an aquatic environment shows a Triton and a *ketos* that in this case is much closer to an Indian *makara* than to a *ketos* (Belenitskī & Piotrovskī 1959: Pls. XXVIII-XXIX and XXXI-XXXII). This composition was influenced by the late Gandhāran art — cf. with the Hadda “Fish Porch”, as noted by Belenitskī & Marshak 1971. The *makara* is a creature which belongs to the in Indian literature and arts (Darian 1976). As it seems, its iconographic type was created only in the mid-3rd century BC when it is for the first time attested at Lomas Rishi (Vogel 1929/1930; see also Viennot 1954). Its shape took inspiration from crocodiles and it was very likely influenced by the Greek sea-monster *ketos* (Boardman 1986). The famous statue of Kanishka from Mathura is decorated with a *makara* in the terminal part of the king’s club (Rosenfield 1976: Pl. 2b). Cf. with some ornaments of Sogdian armours painted at Pendjikent (Belenitskī 1980: 109 and 198; Grenet 2006: fig. 14).

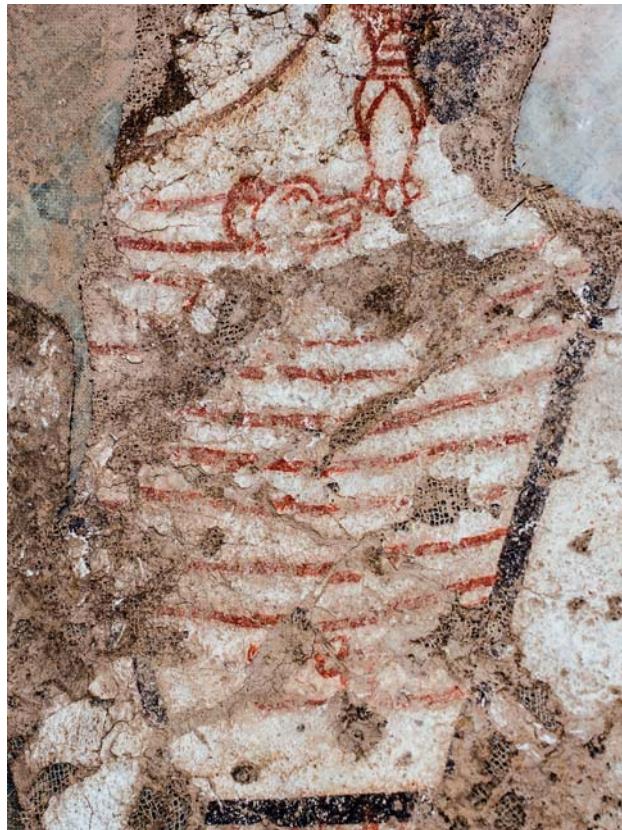


Fig. 6. Detail of a wall painting fragment from Akchakhan-kala showing a torque with zoomorphic terminals.

During the Late Antique period (6th-8th centuries AD) in Central Asia and in particular in Sogdiana, the *ketos* appears to have known a discreet success as for instance witnessed by the finds of Pendjikent (the four-armed goddess painted in Temple II, see Belenitskī & Marshak 1971: figs. 3a-3b - here fig. 7; Belenitskī 1980: fig. 17; decorative elements in shape of dragons, *ib.*: figs. 91-92), Bundjikat (wall paintings, Sokolovskī 2009: 180-181, no. 77 - here fig. 8), Varaksha (plaster relief, Shishkin 1963: 184, fig. 105), and from toreutic material (Darkevich 1976: fig. 1, nos. 1-2; Marshak 1986: no. 68). Although in some cases these later Central Asia “dragons” were influenced by the iconography of the Indian *makara* (on the twofold relation between *ketos* and *makara*, see Boardman

1986) and the oriental dragon (*infra*), likewise some other iconographic and stylistic elements of the Central Asian arts of that time (on the relations between Sogdiana and India, see Rapin 1995, 1996; Grenet 1991, 2002, 2004 and 2006; La Vaissière 2005: 71-87; Compareti 2009. On the connections with the steppe *infra*), the echo of the iconography of the Greek archetype is still present, as for example in the vehicle of the above-mentioned four armed goddess of Pendjikent Temple II (fig. 7) whose aspect is characterised by a stratification of several artistic elements locally elaborated. In Chorasmia the same can be argued for the depiction of a goddess in western garb seated on a four-legged dragon/*makara* (more than a *ketos* - Smirnov 1909: no. 285; Darkevich 1976: Pl. 25, no. 6), and for some other Late Antique material, all evidence that points toward connections with the south¹⁷. Another Late Antique Chorasmian silver bowl, inscribed in Chorasmian, has in its central emblema the representation of a goddess in armour sitting on a lion-headed marine monster that, it is noteworthy, presents a dotted rendering of the skin (Smirnov 1909: no. 44; Azarpay 1969: Pl. 5c; Darkevich 1976: Pl. 25, no. 5).

In the Indian subcontinent a series of Greek *kētē* appears in the so called Gandhāran toilet trays, in association with Nereids, cupids or as stand-alone decoration (Francfort 1979; Dar 1979; Boardman 1992; Tanabe 2002). These stone *phialae* (on hypotheses about their function, see Lerner & Kossak 1991: 60-66; Falk 2014) initially dated in the 2nd-1st centuries BC (Francfort 1979) and now considered belonging to the 1st-2nd centuries AD (Lo Muzio 2011) are clearly Hellenistic (although somewhat crude), and actually show the iconography elaborated during the Classical period (Boardman 1986; cf. the decoration of the Hellenistic Etruscan urns, *infra*). For present purposes, considering that stylistically there is not much to associate this evidence to the Akchakhan-kala *ketos* (different medium and dimensions), this datum shows that Hellenistic models were known in Chorasmia approximately at the same epoch as in Gandhāra and before the partaking of Chorasmia in the so called Silk-Road network since the

¹⁷ This “goddess on dragon” of unknown provenience (allegedly Dagestan) is associated to the Chorasmian corpus of silver bowls with goddesses and other mythological characters for its style (Darkevich 1976: 108). On the Indian, Roman-Hellenistic and local elements attested in the Chorasmian silver bowls depicting a four-armed goddess, see Minardi 2013. Already in the 2nd-3rd century AD at Toprak-kala it is possible to witness in the coroplastic arts of the polity an influence from Gandhāra (Minardi 2015a: 103-113 with references).

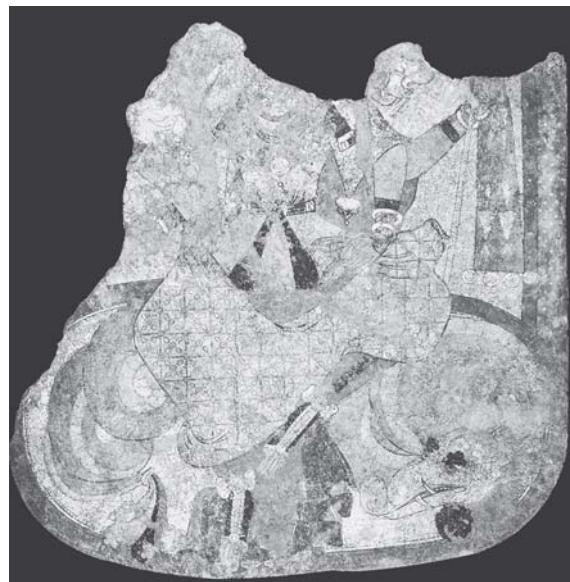


Fig. 7. Wall painting with four-armed goddess from Pendjikent Temple II (after Belenitski 1980, fig. 17).



Fig. 8. Detail of a wall painting from Bundjikat (after Sokolovskii 2009: 181, No. 77).

2nd century AD, which saw its full integration in the Central Asian culture of the time (Minardi 2015a). The early use of the unbaked-clay technique in Chorasmia confirms this fact (on this and on the role of Hellenized Bactria, see *infra*).

The iconographical stratification generated in Central Asia already in the 1st century AD, with also the influence of the steppes and of its animal-style in the local crafts, is shown by the finds of the Tillya Tepe necropolis (Sarianidi 1985; on the steppes factor, see Francfort 2011; 2012). Most of the monsters represented in the golden items of this “hoard” similar to *kētē*, dating at the 2nd quarter of the 1st century AD, are not strictly related to the *ketos* iconography presently discussed, but they are genuine dragons thanks to an additional (to a middle-eastern one) layer of oriental connections and due to their origin (Brentjes 2000; Boardman 2003a; 2003b; 2012; Francfort 2012). Perhaps a couple of *kētē* can be recognized in a pendant depicting a half-naked and winged *potnia theron* from Tomb VI (Sarianidi 1985: 105, no. 48; a goddess of sexuality/fertility). Here the symmetrical sea-creatures have a clear dog-like head although their bodies instead of being snake-shaped appear as those of large fishes.

What is important to underline is that in the Chorasmian *ketos* under scrutiny there is no traceable influence neither of the contemporary Indian art (proper, outside Hellenism), nor of the steppic animal style. The steppic connection of Chorasmian must not be underestimated but the fact that the Akchakhan-kala *ketos* is made with a western technique and that it appears to be stylistically Greek, are remarkable facts in a polity where the grip of Hellenism was not as strong as in its southern neighbours. The only close parallel with *Sakā* material can be done with a “gold and turquoise” belt buckle/relief plaque generally said to come from Siberia and of uncertain dating (now at the Hermitage, Siberian Collection of Peter the Great - Piotrovskii 1987: 115, no. 146, 3rd-2nd century BC; Boardman 2010: colour Pl. 3, no. 344 - here fig. 9) which is clearly on its own account influenced by the Greek *ketos*: the wolf’s head has been crafted with very fine details (elongated board muzzle, wrinkles, big fang, pathetic eye etc.), as well as the snake which is attacking the wolf, all characteristics that distinguish this gold buckle from other similar animal-style ornaments (as noted by Piotrovskii 1987: 115; for cfs., see the catalogue by Boardman 2010)¹⁸.

¹⁸ Cfs. two ornamental plaques for belt buckles published by Pfrommer dated between the 1st century BC- 1st century AD (Pfrommer 1993: 59; 204-205, nos. 93-94); pair of



Fig. 9. Gold relief plaque, Hermitage, Siberian Collection of Peter the Great (after Piotrovskii 1987: 115, no. 146).

The technique of the Chorasmian *ketos*

The Chorasmian *ketos* is an unbaked-clay modelled high-relief coated with plaster and with over-painted details. With the restoration of the two fragments still in progress¹⁹ it is not possible to ascertain if a wooden frame was used in order to sustain the modelled sculpture, although, this is unlikely. The *ketos* apparently was joined to the wall that sustained it, as this structure was made in contemporary with and for the sculpture. The mixture usually used for the modelled elements at Akchakhan-kala is particular, consisting in a mix of fine clay and fine straws.

Moulds, as typical for the unbaked-clay technique in Central Asia, India and Iran (Varma 1970; Tarzi 1986; Bollati 2008), have been probably

solid gold bracelet from the “Oxus Treasure” dated in the 5th-4th century BC (Curtis 2012: 38, no. 27). Both these examples, belonging to the steppes world, are in my opinion more influenced by the iconography of dog-headed *ketos* than by the steppes dragon or similar and older mythical beast. The Oxus bracelet is unlikely so ancient.

¹⁹ The back of the coil is currently reinforced thus covered with restoration material applied during its removal from the terrain in 2007.

used to shape the Chorasmian relief. The use of moulds for the Chorasmian unbaked-clay modelled sculpture is confirmed by the 2nd-4th centuries AD finds from the palace of Toprak-kala (the Chorasmian royal seat which follows the abandonment of Akchakhan-kala during the 2nd century AD and marks the definitive change of its material culture - Minardi 2015a), where in particular among other fragments (reused on a corridor of the north-west tower of the palace), a fragmentary mould of a coiled snake-tail has been recovered (Rapoport & Nerazik 1984: 69, 200-201, fig. 84, nos. 4-5).

In Chorasmia this technique appears to be a 2nd century BC innovation and the unbaked-clay fragments from Elkharas (Southern Chorasmia) are the earliest specimens of modelled sculpture for the polity as far known, along with the pieces from Akchakhan-kala (there is no evidence for the previous centuries apart from the fragmentary mould of Kalalý-gýr 1 of uncertain chronology - see *infra*). Central Asia antecedents are to be found in all those territories that were invested by and assimilated the Hellenistic culture: Ai-Khanoum (Bernard 1969: 344-345, with figs. 19 and 20; specimens published also in Pugachenkova 1979: 88-89, figs. 101-102; Bernard 1973), Takht-i Sangin (Litvinskii & Pichikyan 1994: 62, figs. 16, 17; Litvinskii 2010: figs. 42 and 44; Sherwin-White & Kurth 1993: fig. 17), and at Old Nisa in the 2nd century BC but created on the basis of Hellenistic prototypes (Invernizzi 2009)²⁰. The unbaked-clay technique is by definition made *in loco*, and in the aforementioned cases a workshop of coroplaster/sculptors with a western background must have been working on site. I have already tried in a recent work to argue that a new *facies* of the Chorasmian material culture autonomously developed in the 3rd century BC (Antique 2 - formerly "Kangyuï") but with the assimilation of several Hellenistic elements due to the contacts with Bactriana and in general with the Seleucid territories (Minardi 2015a: 87-122). It is in fact very likely that the *ketos* iconography and its stylistic characteristics came from the Hellenised south to which Chorasmia had always a privileged relationship together with the cousin Sogdiana. Thus it is possible to consider among the possibilities that a Central Asian coroplaster with a Hellenistic background worked at Akchakhan-kala between the 1st century BC and the

²⁰ To note also that at Old Nisa an armed Triton appears as decorative element on the earflap of Attic helmets of Hellenistic unbaked-clay sculptures (Pilipko & Puschnigg 2002).

1st century AD²¹. It is however noteworthy that instead the wall paintings of the Ceremonial Complex of the site show a remarkable conservatism within the same religious semantic area (Betts *et al.* 2015).

The ways of iconographic transmission have been better considered in the Greek and Roman west, due to the abundance of material distributed along centuries of development (for a convenient synthesis, see Pisano & Ghedini 1997 with lit.). For instance, with regards to the transmission of mythological subjects in the Etruscan Hellenistic urns with of mid-3rd - 1st centuries BC (Pairault 1972; Van der Meer 1975), and in the Roman sarcophagi (Froning 1980; 1981) various hypotheses have been advanced including the use of gypsum casts, the use of which in Central Asia is also proven (e.g. by the Hellenistic *emblemata* of Alexandrine origin from Begram, as first argued by Adriani in 1959 - for further references, see Minardi 2015b). In Chorasmia the evidence, although limited, seems to point toward the same consuetude, as proven by a fragmentary gypsum cast of a gryphon's head from *gorodishche* Kalalý-gýr 1 of uncertain dating (mid-3rd century BC - 1st century BC, see Minardi 2015a: 97-103 with references).

Religious implications: an image shrine? The Akchakhan-kala context

Bearing in mind that further archaeological investigations are needed in order to ascertain whether other portions of the unbaked-clay sculpture with *kertos* are preserved under the sands of Akchakhan-kala, there are three main elements now constituting the evidence unquestionably supporting the religious and ceremonial functions of the Ceremonial Complex of the site: the wall paintings with the likely representation of a Zoroastrian god (Grenet, in Betts *et al.* 2015); its fire altar furnished with ivory, and now the unbaked-clay relief of a sea-monster from the same fire altar area. The excavation of this area of the Ceremonial Complex has yet to be completed, but it is clear that it was abundantly decorated with unbaked-clay painted sculptures. The closest parallel always remains the chronological ensuing palace of Toprak-kala, where a series of unbaked-clay sculptures has been found. In particular, in the main niche of Room 14 ("Hall of the Dancing Masks"), a lion paw and parts of a female dress

²¹ For a preliminary consideration of the other Hellenistic material from the site, see Minardi 2015a: 103-113.

were discovered (Rapoport & Nerazik 1984: 83, Fig. 41), and identified by KhAEE archaeologists as the remains of a depiction of the goddess Anāhitā (*ib.* 85 - in Central Asia the goddess on lion is usually identified as Anāhitā/Nana, see Azarpay 1976; Potts 2001; Ambos 2003; Ghose 2006; on Anāhitā, see also Chaumont 1965; Grenet & Marshak 1998). At Akchakhan-kala there is no clear evidence of figures associated to the *kotos*, although a fragment of modelled sculpture in shape of human feet has been unearthed in the same area, now waiting for restoration (Betts, pers. comm.).

As for the Indian *makara*, the Chorasmian *kotos* is undoubtedly associated with waters and with their symbolic and religious facets (*supra* on the Greek mythology to which is related). The *makara* “is the emblem of the waters, the plants, the entire vegetal substratum of life; and in this connection it is thought to serve its primary artistic function as the vehicle (*vāhana*) of the River Goddess Gaṅgā” (Darian 1976). Even the association *kotos/goddess* in Central Asia is assured by the painting of Pendjikent Temple II, where the enthroned female divinity is four-armed (an Indian influence), and her domain is symbolized by a *kotos* at her feet (from six to seven centuries older than the Chorasmian one).

Hence, due to the context of the Chorasmian unbaked-clay *kotos* and based on the discussed evidence, we are probably at the presence of the remains of a cultic depiction of a god or more likely a goddess associated with waters. Considering, moreover, that the god depicted on the southern wall of the hypostyle hall of the Ceremonial Complex is probably the god Srōsh, and that in his Avestan hymn (*Yasht* 11, 4) the god is hailed as protector of those who are crossing rivers, a connection of the Akchakhan-kala divinities with waters seems very likely, and in consequences with the Oxus (as already noted by Tolstov for Chorasmia - Tolstov 1948a: 200).

That the Oxus was sacred in the polity is known, not only because the Muslim scholar al-Bīrunī wrote that in Chorasmia “the 10th [of the month of Ispandārmājī] is a feast called Wakhsh-Angām. Wakhsh is the name of the angel who has to watch over the water and especially over the river Oxus” (Biruni, *Chronology* transl. Sachau 1879: 225), but also by reason of the Chorasmian epigraphic evidence which also attests the local use of theonyms related to Wakhsh/the Oxus (Livshits in Rapoport & Nerazik 1984: 258; Livshits in Vainberg 2003: 190), similarly to Bactriana (Ai-Khanoum, Rapin & Grenet 1983; Takht-i Sangin, where the god took the local and Hellenic form of Marsyas, see Litvinskii & Pichikyan 1995; 2000: 312-324; see also Boyce & Grenet 1991: 179-180), both

countries, along with Sogdiana, crossed and connected by the same river and with the same Eastern-Iranian cultural background. According to the ethnographic data gathered by the KhAEE the Oxus River was yet connected in modern times with an ancient and local cult of fertility (Snezarev 1979: 187-203), datum associated by Tolstov and colleagues with the invocation of *Arədvī Sūrā Anāhitā*, (*Yasht* 5), the heavenly river and goddess of the waters invoked in the Avesta and worshipped for fecundity (on *Anāhitā*, *Aredvi* and their association, see Boyce 1988; 1982: 216-217; Boyce *et al.* 1989; Boyce & Grenet 1991: 245, 271; see also Kellens 2003-2004).

Among the divinities of the Kushan pantheon — so only approximately in contemporary with the creation of the *ketos* image in Chorasmia²² — the god Oaxsho (i.e. Wakhsh) represented with a dolphin in his lap (Rosenfield 1967: 74-75, 92) is the personification/guardian of the river Oxus, while Ardoxsho/Aši, the fertility goddess subject to *interpretatio* with Fortuna/*Tyche*, daughter of Ahura Mazda and sister of Srōsh, Rashnu and Mithra (*Yasht* 17, 16 - the gods of justice), has been only tentatively associated with water and moisture²³, not specifically with the Oxus but to *Aredvi* (Harmatta 1960; see also the Bactrian inscription of Ayrtam where a Pharro-Ardoxsho cult image seems to have been related with a river - Harmatta 1994: 317-319; 423-424; on the identification of Ardoxsho with Aši, also *yazatā* of Fortune, see Boyce *et al.* 1989; Boyce & Grenet 1991: 160).

But these Kushan divinities do not have any animal vehicle resembling the *ketos*, and as abovementioned, Nana/*Anāhitā* usually mounts a lion, as in the corpus of Chorasmian silver bowls with decorated *emblemata*. Thus, it may be assumed that Chorasmia adopted, during the 1st century BC - 1st century AD, a representation for a river/water goddess belonging to the local Iranian pantheon derived from a western-based iconographic model of the Nereids on sea-creatures/marine *thiasos*. Speculatively, this still unknown Chorasmian goddess was enthroned on this *ketos*/vehicle as most of the divinities attested throughout Antiquity in Central Asian, including

²² Kanishka's first year or reign is either 78 AD or 127/128 AD. For a synthesis on the debated question regarding Kushan chronology, see Loeschener 2012.

²³ Cf. Grenet & Marshak 1998: 8-9 with reference to Henning (1944) and Grenet (1998): the curse cited in the Manichean fragment M 393 consists in “the absence of moisture”, intended as fields idled by drought.

Chorasmia. Whether this deity was previously represented through other artistic languages or whether her iconography was created only after the collision with an alien culture, remains unknown. In addition, we should not underestimate the possibility of the existence of divinities from the semi-nomadic/Eastern Iranian substratum of the Chorasmians (Carter's "Scytho-Saka" river goddess - Carter 1992)²⁴, taking into account the chronic absence of literary sources that hopefully will be compensated with additional archaeological finds. But the iconography, some stylistic elements and the technique of the *ketos* are, chronologically speaking but not only, Hellenistic.

Preliminary conclusions

It is clear that the iconography and the style of the Chorasmia *ketos* cannot be tracked elsewhere than within a Hellenistic environment, most likely Central Asian. The historical background of Akchakhan-kala points toward a cultic semantic of the modelled sculpture — unless we want to consider these fragments from the Main Altar Area of the *gorodishche* a mere and standing-alone decoration of some sort. Its marine nature assures an association with water divinities, divinities that in Chorasmia ought to be associated on their own with the Oxus. The link with the river Oxus and the manufacture of the unbaked-clay *ketos* (modelled and painted), in my opinion points toward a connection with Bactriana. Unless in future excavations of the area some epigraphic evidence will be found in relationship with other fragments of the *ketos* composition, or with other modelled sculptures, we will probably never know the name of the local (Zoroastrian?) divinity associated with this attribute/vehicle, a marine creature with an Hellenistic appearance that did not appear in Central Asia before the 3rd/2nd century BC. It remains, however, astonishing how in Sogdiana a *ketos*, transformed but loyal to its iconographical origin, is still represented several centuries later at Pendjikent with a female goddess (four-armed as in India) whose domain is possible to infer by its presence. In general, it seems that in Chorasmia and Sogdiana tradition was regarded as very important factor, notwithstanding the receptiveness of these two

²⁴ For a recent comparative study on Indo-European river-goddesses, see Saadi-Nejad 2013.

countries where both visual and religious notions contain a diachronic stratification of different layers (e.g. on religion Grenet & Marshak 1998).

The “portrait gallery” painted in the corridors of the Ceremonial Complex of Akchakhan-kala seems to support the idea of a sacred image relative to a water-deity in the site: most of the figures, when their necks are preserved, show a torque with a terminal appendix in shape of “zoomorphic terminals” (Kidd 2011: 246-248; see also Kidd & Betts 2010: fig. 7), which in my opinion possibly are *kētē* (fig. 6). The torque itself is a status symbol which belongs to the steppes — but not only²⁵ — and interesting enough the style of most of the wall paintings of the Ceremonial Complex is distant from Hellenistic art²⁶, if not for some iconographic elements such as the mural crown of Srōsh (Minardi in Betts *et al.* 2015) that contrasts with this 1st century BC - 1st century AD figure almost Achaemenid in its appearance (e.g. his “false profile”, the two belts that the god wears etc.). It seems then that during the Antique 2 (formerly “Kangyuī”) Chorasmian *facies* the country’s strong tradition was sided by a lively innovative component: the general transformation of Central Asia with the Seleucids ignited even in the remote Chorasmia a change in the material culture of the country (Minardi 2015a) and the *ketos*, contemporary with the Srōsh, is a perfect paragon that illustrates this cultural climate.

The *ketos* high-relief ought to have been placed on the southern side of the plinth that “shielded” the altar from a direct access; on the other sides fire features are attested (Pl. 3). The layout of this unexcavated and so still unknown portion of Ceremonial Complex has still to be understood, but the close presence in the main altar area of the *ketos* relief and of what possibly might be the king’s fire, bring us to witness a remarkable association of the water and fire, two fundamental elements of the Zoroastrian *Yasna* “inner” liturgy (Darrow 1988).

²⁵ E.g. see the Achaemenid specimens from the Oxus Treasure (Curtis 2005: 139-140; see also Musche 1988: 277-285) - although the closest specimens to the painted Chorasmian torques remain scytho-sacan (e.g. Fedorov-Davydov 1976: 48, no. 33); but see also the Thracian bowl from Yakimovo, Bulgaria (Cat. Cologne 1979: 198, nos. 413 and 418). For the Parthian evidence, see Musche 1992: 321-323; Kidd 2011 - The Parthians, i.e. the Aparnii/Dahae of the written sources shared a very similar cultural background with the Chorasmians (Minardi 2015a: 45-46 with references).

²⁶ But a Hellenistic influence can be discerned in other fragments not belonging to the “portrait series”, see for instance the three-quarter figure in Kidd *et al.* 2004: 85; Kidd 2011: 258. For other evidence and considerations, see Minardi 2015a.

Western models inspired the Central Asian artists who worked at the Chorasmian high-relief, and for the first time - as postulated some decades ago by Soviet scholars (D'yakonova & Smirnova 1967; Marshak 1986: 243) — we finally have evidence, although fragmentary, of one of those cultic images that inspired the Chorasmian toreutics and the Sogdian wall paintings of Late Antiquity, in a significant continuum of iconographic transmission and further elaboration. And this evidence is unexpectedly coming from Chorasmia.

References

- ADRIANI, A., 1959. Segnalazioni alessandrine: le scoperte di Begram e l'arte di Alessandria, *Archeologia Classica* 7: 214-238.
- AL-BĪRUNĪ, (transl.) 1879. *The Chronology of Ancient Nations. Translated and edited, with notes and index by E.C. Sachau*, London.
- AMBOS, C., 2003. Nanaja - eine ikonographische Studie zur Darstellung einer altorientalischen Göttin in hellenistisch-parthischer Zeit, *Zeitschrift für Assyriologie* 93: 231-272.
- ANDRIANOV, B.V., 1969. *Drevnie orositel'nye sistemy Priaral'ya (v svyazi s istorieю vozniknoveniya i razvitiya oroshaemogo zemledeliya)*, Moscow.
- ARNOLD-BIUCCHI, C., 1990. *The Randazzo hoard 1980 and Sicilian chronology in the early fifth century B.C.*, New York.
- ARTAMONOV, M.I., 1969. *Treasures from Scythian tombs in the Hermitage Museum*, Leningrad-London.
- AZARPAY, G., 1969. Nine inscribed Choresmian bowls, *Artibus Asiae* 13/2-3: 185-203.
- , 1976. Nana, the Sumero-Akkadian goddess of Transoxiana, *Journal of the American Oriental Society* 96/4: 536-542.
- BARRINGER, J., 1998. *Divine escorts: Nereids in Archaic and Classical Greek art*, Ann Arbor.
- BECATTI, G., 1955. *Oreficerie antiche dalle minoiche alle barbariche*, Rome.
- BELENITSKĪ, A.M. / BELENIZKI, A.M. [sic] & MARSHAK, B.I., 1971. L'art de Piandjikent à la lumière des dernières fouilles (1958-1968), *Arts Asiatiques* 23: 3-39.
- BELENITSKĪ, A.M. / BELENIZKI, A.M. [sic], 1980. *Mittelasien kunst der Sogden*, Leipzig.
- BELENITSKĪ, A.M. & PIOTROVSKĪ, B.B., 1959. *Skul'ptura i zhivopis' drevnego pyandzhikenta*, Moscow.
- BELENITSKĪ, A.M. & MESHKERIS, V.A., 1986. Zmei-drakonī v drevnem iskusstve Srednei Azii, *Sovetskaya Arkheologiya* 3: 16-27.
- BERNARD, P. & BOPEARACHCHI, O., 2002. Deux bracelets grecs avec inscriptions grecques trouvés dans l'Asie centrale hellénisée, *Journal des Savants* 2: 237-278.

- BERNARD, P., 1969. Quatrième campagne de fouilles à Aï Khanoum (Bactriane), *Comptes rendus des séances de l'Académie des Inscriptions et Belles-Lettres* 3: 313-355.
- , 1973. *Fouilles d'Aï Khanoum I. (Campagnes 1965, 1966, 1967, 1968)*. MDAFA XXI, 2vv. Paris.
- BETTS, A.V.G. & YAGODIN, V.N., 2008. The Tash-k’irman-tepe cult complex: an hypothesis for the establishment of fire temples in Ancient Chorasmia, in: Parry K. (ed.), *Silk Road Studies* 12, Turnhout: 1-19.
- BETTS, A.V.G., GRENET, F., YAGODIN, V.N., KIDD, F., MINARDI, M., BONNAT, M. & KHASHIMOV, S., 2015. The Akchakhan-kala wall paintings: new perspectives on kingship and religion in Ancient Khorezm, *Journal of Inner Asia Art and Archaeology - forthcoming*.
- BETTS, A.V.G., YAGODIN, V.N., HELMS, S.W., KHOZHANIYAZOV, G., AMIROV, SH.SH. & NEGUS CLEARY, M., 2009. Karakalpak-Australian excavations in Ancient Chorasmia, 2001-2005: interim report on the fortifications of Kazakl’i-yatkan and regional survey, *Iran* 47: 33-55.
- BIANCHI BANDINELLI, R. & TORELLI, M., 1976. *L’arte dell’ antichità classica 2. Etruria - Roma*, Turin.
- BOARDMAN, J., 1986. The ketos in India, *Bulletin de Correspondance Hellénique, Supplement* 14: 447-453.
- , 1987. “Very like a whale: Classical sea monsters, in: Farkas A.E., Harper P.O. & Harrison E.B. (eds.), *Monsters and demons in the Ancient and Medieval worlds: papers presented in honor of Edith Porada*, Mainz: 73-84.
- , 1992. Palettes, in: Errington E. (ed.), *The Crossroads of Asia: transformation in image and symbol in the art of ancient Afghanistan and Pakistan*, Cambridge: 152-158.
- , 1997. Ketos, s.v. *Lexicon Iconographicum Mythologiae Classicae (LIMC)* VIII. 1: 731-736; VIII. 2: 496-501.
- , 2003a. Three monsters at Tillya Tepe, *Ancient Civilizations from Scythia to Siberia* 9/1-2: 133-146.
- , 2003b. The Tillya tepe gold: a closer look, *Ancient West and East* 2: 348-374.
- , 2010. *The relief plaques of Eastern Eurasia and China. The ‘Ordos Bronzes’, Peter the Great’s Treasure, and their kin*, Oxford.
- , 2012. Tillya Tepe: echoes of Greece and China, in: Aruz J. & Fino V. (eds.), *Afghanistan. Forging civilizations along the Silk Road*, New York: 102-111.
- BOLLATI, A., 2008. Le sculture, in: Invernizzi A. & Lippolis C. (eds.), *Nisa Partica. Ricerche nel complesso monumentale arsacide 1990-2006*, Florence: 167-196.
- BOTTINI, A. & SETARI, E. (eds.), 2009. *Il segreto di marmo. I marmi dipinti di Ascoli Satriano*, Verona.
- BOYCE, M. & GRENET, F., 1991. *A history of Zoroastrianism. Vol. III. Zoroastrianism under Macedonian and Roman rule*. Leiden, New York, Kobenhavn, Köln.

- BOYCE, M., 1982. *A history of Zoroastrianism. Vol. II. Under the Achaemenids.* Leiden-Köln.
- , 1988. The Lady and the scribe: some further reflections on Anāhīt and Tīr, in: Duchesne-Guillemin J. & Vahman F. (eds.), *A Green Leaf, Barg-e sabz: Papers in honour of Jes P. Asmussen (Acta Iranica 28)*, Leiden: 277-282.
- BOYCE, M., CHAUMONT, M.L. & BIER, C., 1989. Anāhīd, s.v. *Encyclopædia Iranica* I/9: 1003-1011 (available on-line at <http://www.iranicaonline.org/articles/anahid#pt4>).
- BRENTJES, B., 2000. ‘Animal Style’ and Shamanism. Problems of pictorial tradition in northern Central Asia, in: Davis-Kimball J., Murphy E.M., Koryakova L. & Yablonsky L.T. (eds.), *Kurgans, ritual sites, and settlements: Eurasian Bronze and Iron Age*, Oxford.
- CARTER, M.L., 1992. A Scythian royal legend from Ancient Uddiyāna, *Bulletin of the Asia Institute* 6: 67-78.
- CAT. COLOGNE 1979. *Gold der Thraker; archäologische Schätze aus Bulgarien*, Mainz.
- CHAUMONT, M.-L., 1965. Le culte de la déesse Anāhitā (Anahit) dans la religion des monarques d'Iran et d'Armenie au Ier siècle de notre ère, *Journal Asiatique* 253: 167-181.
- COARELLI, F., 1968. *L'Ara di Domizio Enobarbo e la cultura artistica in Roma nel II secolo A.C.*, Milan.
- COMPARETI, M., 2009. The Indian iconography of the Sogdian divinities and the role of Buddhism and Hinduism in its transmission, *AION* 69: 175-210.
- CURTIS, J., 2005. Jewellery and personal ornaments, in: Tallis N. & Curtis J. (eds.), *Forgotten Empire. The world of Ancient Persia*, London: 132-149.
- , 2012. *The Oxus Treasure*, London.
- CZUMA, S.J., 1985. *Kushan sculpture: images from Early India*, Cleveland.
- DAHMEN, K., 2008. Alexander in gold and silver: reassessing third century AD medallions from Aboukir and Tarsos, *American Journal of Numismatics* 20: 493-546.
- DAR, S.R., 1979. Toilet trays from Gandhāra and beginning of Hellenism in Pakistan, *Journal of Central Asia* 2: 141-184.
- DARIAN, S., 1976. The other face of the Makara, *Artibus Asiae* 38/1: 29-36.
- DARKEVICH, V.P., 1976. *Khudozhestvennyj metall Vostoka VIII-XIII vv.: Proizvedeniya vostochnoij torevtiki na territorii evropejskoj chasti SSSR i Zaural'ya*, Moscow.
- DARROW, W.R., 1988. Keeping the waters dry. The semiotics of fire and water in the Zoroastrian Yasna, *Journal of the American Academy of Religion* 61/3: 417-442.
- DELBRUECK, R., 1929. *Die Consulardiptychen und verwandte Denkmäler*, Berlin.
- D'YAKONOVA, N.V. & SMIRNOVA, O.I., 1967. K voprosu o kul'te Nanŷ (Anakhitŷ) v Sogde, *Sovetskaya Arkheologiya* 1: 74-83.
- FALK, H., 2014. Libation trays from Gandhara, *Bulletin of the Asia Institute* 24: 89-113.

- FEDOROV-DAVYDOV, G.A., 1976. *Iskusstvo kochevnikov i Zolotoi Ordы*, Moscow.
- FRANCFORT, H.P., 1979. *Les palettes du Gandhāra*, Paris.
- , 2011. Tillya Tépa (Afghanistan) la sépulture d'un roi anonyme de la Bactriane du Ier siècle P.C., *Topoi* 17/1: 277-347.
- , 2012. Tillya Tepe and its connections with the Eurasian steppes, in: Aruz J. & Fino V. (eds.), *Afghanistan. Forging civilizations along the Silk Road*, New York: 88-101.
- FRONING, H., 1980. Die ikonographische Tradition der kaiserzeitlichen Sarkophagreliefs, *Jahrbuch des Deutschen Archäologischen Instituts* 95: 322-341.
- , 1981. *Marmor-schmuckreliefs mit griechischen Mythen*, Mainz.
- GHOSE, M., 2006. Nana the « original » goddess on the lion, *Journal of Inner Asia Art and Archaeology* 1: 97-112.
- GIUSTOZZI, N., PARIS, R. & SETARI, E., 2013. *Mostri. Creature fantastiche della paura e del mito. Catalogo della mostra (Roma, 17 dicembre 2013 - 1 giugno 2014)*, Rome.
- GRENET, F. & MARSHAK, B.I., 1998. Le mythe de Nana dans l'art de la Sogdiane, *Arts Asiatiques* 53: 5-18.
- GRENET, F., 1994. The second of three encounters between Zoroastrianism and Hinduism: plastic influences in Bactria and Sogdiana (2nd-8th c. A.D.), in: Lazard G. & Sar Desai D.R. (eds.), *James Darmesteter Memorial Lectures, The Asiatic Society of Bombay*: 41-57.
- , 1998. I, Étude de documents sogdiens; II, Documents sur le zoroastrisme en Asie centrale, *École pratique des Hautes Études, section des Sciences Religieuses* 105: 213-217.
- , 2002. Regional interaction in Central Asia and Northwest India in the Kidarite and Hepthalite periods, in: Sims-Williams N. (ed.), *Indo-Iranian languages and people*, Oxford: 203-224.
- , 2006. Iranian gods in Hindu garb: the Zoroastrian pantheon of the Bactrians and Sogdians, second-eighth centuries. *Bulletin of the Asia Institute* 20: 87-99.
- GUDKOVA, A.V. & LIVSHITS, V.A., 1967. Novye khorezmiske nadpisi iz nekropolya Tok-kala i problema «Khorezmiskoy eri», *Vestnik Karakalpakskogo filiala Akademii Nauk Uzbekskoi S.S.R.* 1/27: 3-19.
- GUZZO, P.G., 2003. A Group of Hellenistic silver objects in the Metropolitan Museum, *Metropolitan Museum Journal* 38: 8+45-94.
- HARMATTA, J. (ed.), 1994. *History of civilization of Central Asia, volume II*, Paris.
- , 1960. Cusanica, *Acta Orientalia Academiae Scientiarum Hungaricae* 11, 1/3: 191-220.
- HAYNES, D.E.L., 1975. *The Portland Vase*, London.
- HELMS, S.W. & YAGODIN, V.N., 1997. Excavations at Kazakl'i-yatkan in the Tash-k'irman Oasis of Ancient Chorasmia: a preliminary report, *Iran* 35: 43-65.
- HELMS, S.W., YAGODIN, V.N., BETTS, A.V.G., KHOZHANIYAZOV, G. & NEGUS CLEARY, M., 2002. The Karakalpak-Australian excavations in Ancient Chorasmia: the northern frontier of the ‘civilised’ ancient world’, *Ancient Near Eastern Studies* 39: 3-44.

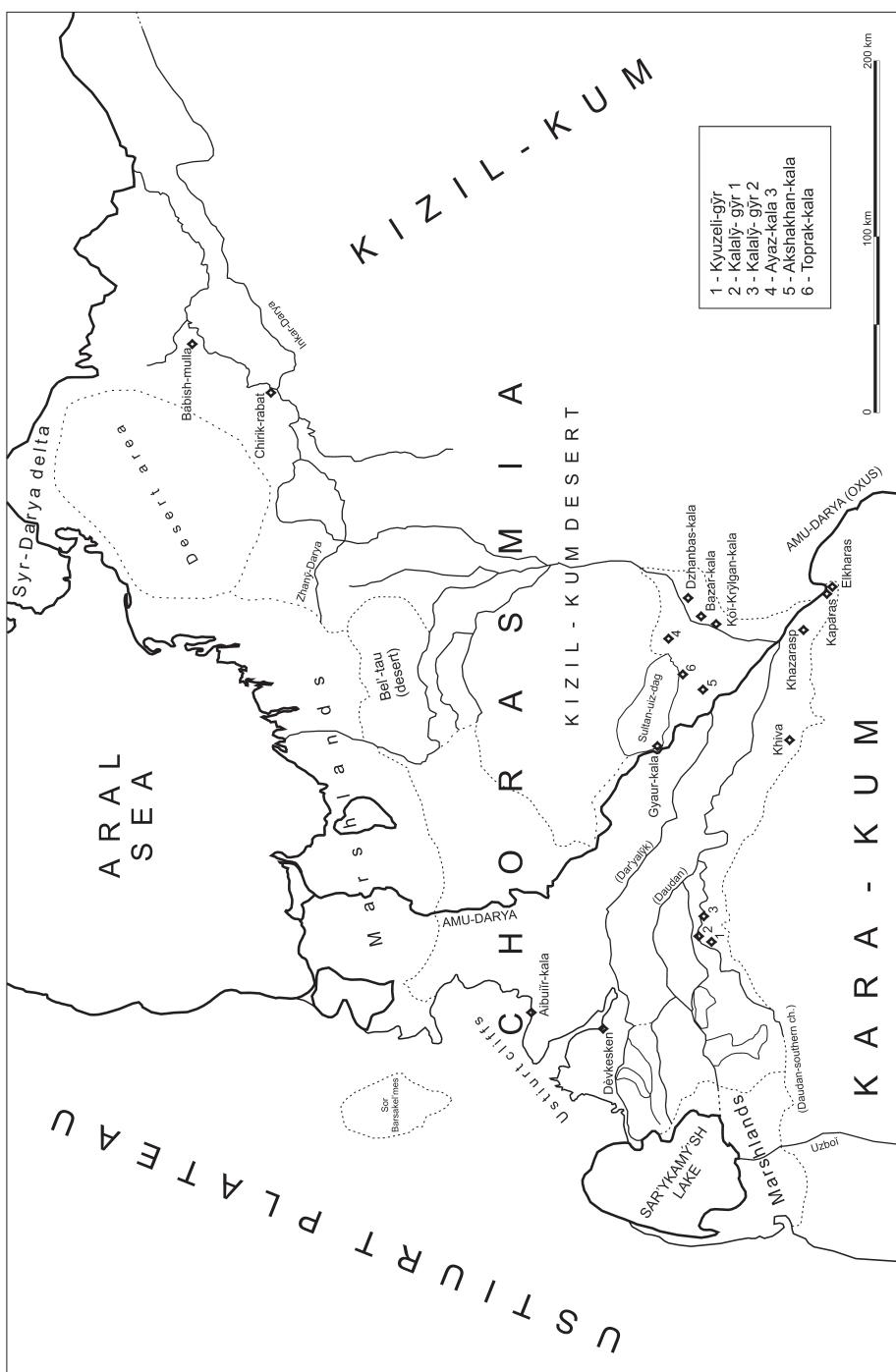
- HELMS, S.W., YAGODIN, V.N., BETTS, A.V.G., KHOZHANIYAZOV, G., & KIDD, F., 2001. Five season of excavations in the Tash-k'irman Oasis of Ancient Chorasmia, 1996-2000. An interim report, *Iran* 39: 119-144.
- HENNING, W.B., 1944. The murder of the Magi, *Journal of the Royal Asiatic Society of Great Britain and Ireland* 2: 133-144.
- HOFFMANN, H. & DAVIDSON, D., 1965. *Greek gold. Jewelry from the age of Alexander*, New York.
- HOFFMANN, H., 1966. *Tarentine rhyta*, Mainz.
- , 1997. *Sotades: symbols of immortality on Greek vases*, Oxford.
- ICARD-GIANOLIO, N. & SZABADOS, A.-V., 1992. Nereides, s.v. *Lexicon Iconographicum Mythologiae Classicae (LIMC)* VI. 1: 785-824; VI. 2: 456-515.
- INVERNIZZI, A., 2009. *Nisa Partica. Le sculture ellenistiche*, Turin.
- JENTEL, M.-O., 1997. Skylla, s.v. *Lexicon Iconographicum Mythologiae Classicae (LIMC)* VIII. 2: 1137-45.
- JENTOFT-NIESEN, M.R. & TRENDALL, A.D., 1991. *Corpus vasorum antiquorum: fascicule 4 (USA 27)*, Verona.
- KAGAN, J.H. & KRITTS, B., 1995. The Coinage of Kindya, *The Numismatic Chronicle* 155: 261-265.
- KELLENS, J., 2003-2004. Le problème avec Anāhitā, *Orientalia Suecana* 51-52: 317-326.
- KHOZHANIYAZOV, G., 2005. *The military architecture of ancient Chorasmia (6th century B.C.-4th century A.D.)*. Translated, edited and emended by Svend Helms with a contribution by A.V.G. Betts, University of Sydney Central Asian Programme, Paris.
- KIDD, F. & BETTS, A.V.G., 2010. Entre le fleuve et la steppe: nouvelles perspectives sur le Khorezm Ancien, *Comptes rendus de l'Académie des Inscriptions et Belles-Lettres* 2: 637-686.
- KIDD, F., 2006. Preliminary observations on the wall paintings from Kazakl'i-yaktan/Akchakan-kala, Chorasmian (Uzbekistan), in *Velikiĭ shelkovyĭ put'*. *Kul'tura i traditsii. Proshloe i nastoyashchее. Materialy nauchno-teoreticheskoi konferentsii*, Tashkent: 127-132.
- , 2011. Complex connections: figurative art from Akchankhan-kala and the problematic question of relations between Khorezm and Parthia, *Topoi* 17/1: 229-276.
- KIDD, F., NEGUS CLEARY, M., YAGODIN, V.N., BETTS, A.V.G & BAKER BRITE, E., 2004. Ancient Chorasmian mural art, *Bulletin of the Asia Institute* 18: 69-95.
- KÖRTE, G., 1890. *I rilievi delle urne etrusche. Volume II*, Rome-Berlin.
- , 1916. *I rilievi delle urne etrusche. Volume III*, Berlin.
- LA VAISSIÈRE, É. DE, 2005. *Sogdian traders. A History*. (Translated by James Ward), Leiden.
- LATTIMORE, S., 1976. *The Marine Thiasos in Greek sculpture*, Los Angeles.
- LERNER, M. & KOSSAK, S.M., 1991. *The Lotus Transcendent. Indian and South-east Asian sculpture from the Samuel Eilenberg Collection*, New York.

- LITVINSKIĬ, B.A. & PICHIKYAN, I.R. / LITVINSKII, B.A. & PICHIKIAN, I.R., 1994. The Hellenistic architecture and art of the Temple of the Oxus, *Bulletin of the Asia Institute* 8: 47-66.
- , 1995. River-deities of Greece salute the God of the river Oxus-Vakhsh. Achelous and the hippocampess, in: Invernizzi A. (ed.), *In the Land of the Gryphons. Papers on Central Asian Archaeology in Antiquity*, Florence: 129-150.
- , 2000. *Ellinisticheskii Khram Oksa v Baktrii (Yuzhnŷ Tadzhikistan). Tom 1: raskopki. Arkhitektura. Religioznaia zhizn'*, Moscow.
- LITVINSKIĬ, B.A., 2010. *Khram Oksa v Baktrii. (Yuzhnŷ Tadzhikistan). Tom 3: iskusstvo khudozhestvennoe remeslo muzŷkal'nye instrumenty*, Moscow.
- LIVSHITS, V.A. & LUKONIN, V.G., 1964. Srednopersidskie i Sogdiiskie nadpisi na serebryanûkh sosudakh, *Vestnik drevnei istorii* 3: 155-176.
- LIVSHITS, V.A., 1968. The Khwarezmian Calendar and the eras of Ancient Chorasmia, *Acta Antiqua Academiae Scientiarum Hungaricae* 16: 433-446.
- , 1984. Dokumenti, in: Rapoport, Yu.A. & Nerazik, E.E. (eds.), *Toprak-kala. Dvorets, (TKhAEE XIV)*, Moscow: 251-286.
- , 2003. Three silver bowls from the Isakovka Burial-Ground No. 1 with Khwarezmian and Parthian inscriptions, *Ancient Civilisations from Scythia to Siberia* 9/1-2: 147-172.
- , 2004. Nadpisi y dokumenty, in: Vaînberg V.I., *Kalaly-gyr 2. Kul'tovyj centr v Drevnem Xorezme IV-II vv. do n.e.*, Moscow: 188-212.
- LO MUZIO, C., 2011. Gandharan Toilet-trays: some reflections on chronology, *Ancient Civilizations from Scythia to Siberia* 17: 331-340.
- LOESCHENER, H., 2012. The stûpa of the Kushan emperor Kanishka the Great, with comments on the Azes Era and Kushan chronology, *Sino-Platonic Papers* 227: 1-24.
- MACKENZIE, D.N., 1983. Khwarazmian language and literature, *The Cambridge History of Iran*, III/2: 1244-1249.
- , 1991. Chorasmia iii. The Chorasmian Language, s.v. *Encyclopaedia Iranica*, V: 517-520 (available on line at <http://www.iranicaonline.org/articles/chorasmia-iii>).
- MARSHAK, B.I., 1986. *Silberschâtze des Orients*, Leipzig.
- MINARDI, M., & KHOZHANIYAZOV, G., 2015. The Central Monument of Akshakhan-kala: fire temple, image shrine, or neither? Report on the 2014 field season - forthcoming.
- MINARDI, M., 2013. A four armed goddess from Ancient Chorasmia. History, iconography and style of an Ancient Chorasmian icon, *Iran* 51: 111-143.
- , 2015a. *Ancient Chorasmia. A Polity between the Semi-Nomadic and Sedentary cultural areas of Central Asia. Cultural interactions and local developments from the sixth century BC to the first century AD*, (Acta Iranica 56), Leuven.
- , 2015b. A silver rhyton from Afghanistan held in the Cleveland Museum of Art and its historical context, *Journal Asiatique* 303/1: 59-86.
- MUSCHE, B., 1988. *Vorderasiatischer Schmuck zur Zeit der Arsakiden und der Sasaniden*, Leiden.

- , 1992. *Vorderasiatischer Schmuck von den Anfängen bis zur Zeit der Achämeniden (ca. 10.000 - 330 v. Chr.)*, Leiden.
- NERAZIK, E.E. & RAPOPORT, Yu.A., 1981. *Gorodishche Toprak-Kala (raskopki 1965-1975 gg.)*, (TKhAEE XII), Moscow.
- OGDEN, D., 2013a. *Drakōn: dragon myth and serpent cult in the Greek and Roman worlds*, Oxford.
- , 2013b. *Dragons, serpents, and slayers in the Classical and Early Christian worlds. A sourcebook*, Oxford.
- PAIRAULT, F.-H., 1972. *Recherches sur quelques séries d'urnes de Volterra à représentations mythologiques*, Rome.
- PAPADOPOULOS, J.K. & RUSCILLO, D., 2002. A ketos in early Athens: an archaeology of whales and sea monsters in the Greek world, *American Journal of Archaeology* 106/2: 187-227.
- PFROMMER, M., 1993. *Metalwork from the Hellenized East: catalogue of the collections*, Malibu.
- PILIPKO, V.N. & PUSCHNIGG, G., 2002. The second helmeted head from Old Nisa, *Iran* 40: 273-276.
- PIOTROVSKIĭ, B.B. (ed.) / PIOTROVSKI, B.B. [sic.], 1987. *Tesori d'Eurasia. 2000 anni di Storia in 70 anni di archeologia*, Milan.
- PIOTROVSKIĭ, B.B. / PIOTROVSKY B.B. [sic.], 1973-1974. *From the land of the Scythians. Ancient treasure from the museums of the USSR 3000 BC-100 BC*, (The Metropolitan Museum of Art Bulletin 32/5), New York.
- PISANO, G. & GHEDINI, E.F., 1997. Trasmissione delle iconografie, s.v. *Encyclopédia dell'Arte Antica. Secondo supplemento 5*, Rome.
- POTTS, D.T., 2001. Nana in Bactria, *Silk Road Art and Archaeology* 7: 23-35.
- PUGACHENKOVA, G.A., 1979. *Iskusstvo Baktrii épokhi Kushan*, Moscow.
- RAPIN, C. & GRENET, F., 1983. Inscriptions économiques de la trésorerie hellénistique d'Aï Khanoum. L'onomastique iranienne à Aï Khanoum, *Bulletin de Correspondance Hellénique* 107/1: 315-381.
- RAPIN, C., 1995. Hinduism in the Indo-Greek area. Notes on some Indian finds from Bactria and on two temples in Taxila, in: Invernizzi A. (ed.), *In the Land of the Gryphons. Papers on Central Asian Archaeology in Antiquity*, Florence: 275-291.
- , 1996. Relations entre l'Asie centrale et l'Inde à l'époque hellénistique, *Cahiers d'Asie Centrale* 1/2: 35-45.
- RAPOPORT, Yu.A. & NERAZIK, E.E., 1984. *Toprak-kala. Dvorets*. (TKhAEE XIV), Moscow.
- ROBINSON, D.M., 1933. *Excavations at Olynthus. Part V, mosaics, vases and lamps of Olynthus found in 1928 and 1931*, Baltimore.
- , 1934. The Villa of Good Fortune at Olynthus, *American Journal of Archaeology* 38/4: 501-510.
- ROBINSON, D.M., 1946. *Excavation at Olynthus. Part XII. Domestic and public architecture*, Baltimore.
- ROSENFIELD, J.M., 1967. *The dynastic art of the Kushans*, Berkeley.

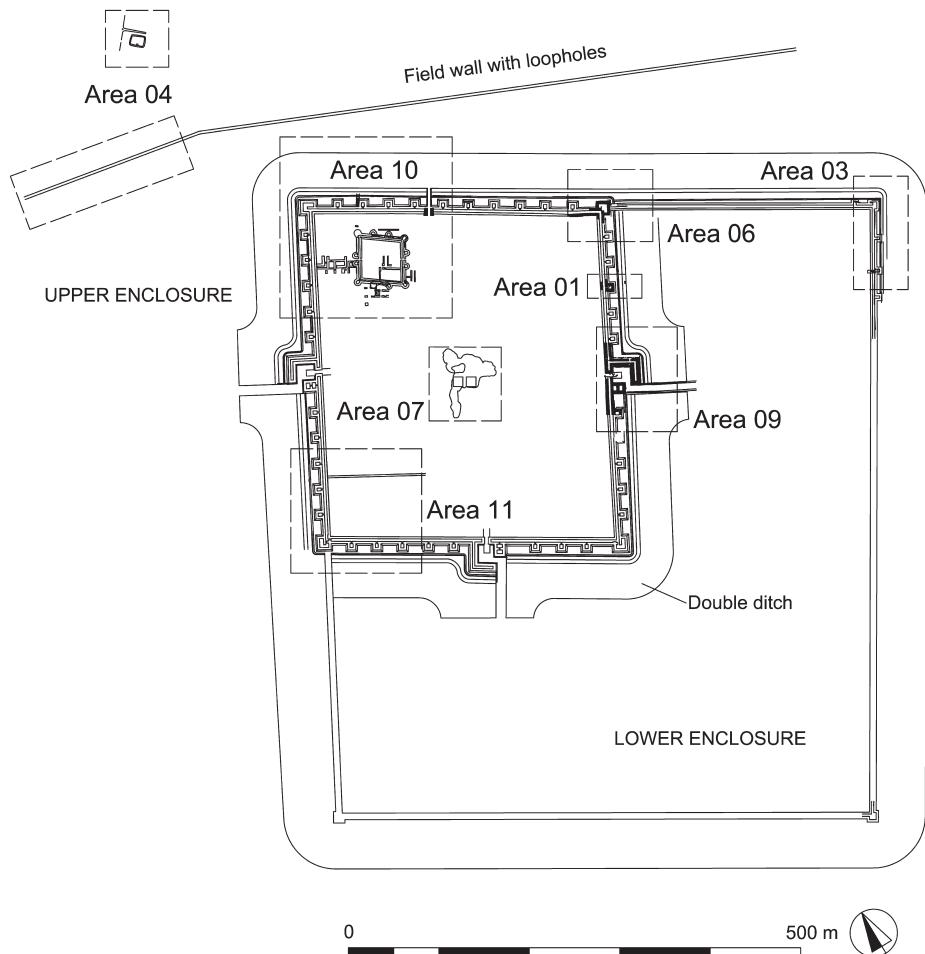
- SAADI-NEJAD, M., 2013. Arəduuī Sūrā Anāhitā: an Indo-European river goddess, *Analytica Iranica* 4/5: 253-274.
- SALZMANN, D., 1982. *Untersuchungen zu den antiken Kieselmosaien: von den Anfängen bis zum Beginn der Tesseratechnik, (Archäologische Forschungen Band 10)*, Berlin.
- SARIANIDI, V., 1985. *The Golden Hoard of Bactria: from the Tillya-tepe excavations in Northern Afghanistan*, Leningrad.
- SCHILTZ, V., 1994. *Les Scythes et les nomades des steppes. VIIIe siècle avant J.-C. - Ier siècle après J.-C.*, Paris.
- SCHUMACHER, K., 1891. *Eine Panaestinische Ciste im Museum Zu Karlsruhe: beitrage zur Italischen Kultur und Kunstgeschichte*, Heidelberg.
- SEIPEL, W., 1996. *Weihrauch und Seide. Alte Kulturen an der Seidenstraße*, Vienna.
- SHERWIN-WHITE, S. & KUHRT, A., 1993. *From Samarkand to Sardis. A new approach to the Seleucid Empire*, Los Angeles.
- SHISHKIN, V.A., 1963. *Varaksha*, Moscow.
- SIMON, E., 1986. *Augustus. Kunst und Leben in Rom um die Zeitenwende*, Munich.
- SMIRNOV, IA.I., 1909. *Vostochnoe serebro. Atlas drevnei serebrianoi i zolotoi posudy vostochnogo proiskhozhdeniya, naidennoi preimushchestvenno v predelakh Rossiiskoi imperii. Izdanie Imperatorskoi Arkheologicheskoi Kommissii ko dnu piatidesiatiletia eia deiatel'nosti*, St. Petersburg.
- SOKOLOVSKIĭ, V.M., 2009. *Monumental'naya zhivopis' VIII - nachala IX veka dvortsovogo kompleksa Bundzhikata, stolitsy srednevekovogo gosudarstva Ustrushany*, St. Petersburg.
- TANABE, K., 2002. Greek, Roman and Parthian influences on the pre-Kushan Gandharan 'toilet trays' and forerunners of Buddhist paradise (Pāramitā), *Silk Road Art and Archaeology* 8: 73-100.
- TARZI, Z., 1986. La technique du modelage en argile en Asie Centrale et au Nord-ouest de l'Indie sous les Kouchans: la continuité malgré les ruptures, *Ktēma* 11: 57-93.
- TOLSTOV, S.P., 1948a. *Drevniĭ Khorezm*, Moscow.
- , 1948b. *Po sledam drevnekherezmiiskoi tsivilizatsii*, Moscow.
- , 1962. *Po drevnim deltam Oksa i Yaksarta*, Moscow.
- TREISTER, M.YU., 1999. Some classical subjects on the late Hellenistic Sarmatian phalerae (to the origin of phalerae), in: Tsetskhladze G.R. (ed.), *Ancient Greeks West and East*, Leiden: 1-45.
- VAN DER MEER, L.B., 1975. Archetype. Transmitting Model. Prototype. Studies of Etruscan urns from Volterra, *BABesch* 50: 179-186.
- VARMA, K.M., 1970. *The Indian technique of clay modelling*, Proddu Santini-ketan.
- VIENNOT, O., 1954. La typologie du Makara et essai de chronologie, *Arts Asiatiques* I: 189-208.
- VOGEL, J.-P., 1929-1930. Le makara dans la sculpture de l'Inde, *Revue des Arts Asiatiques* VI/3: 133-147.

- WALKER, S., 2004. *The Portland Vase*, London.
- WISCHMEYER, W., 1981. Die vorkonstantinische christliche Kunst in neuem Lichte: die Cleveland-Statuetten, *Vigiliae Christianae* 35/3: 253-287.
- WIXOM, W.D., 1967. Early Christian sculpture at Cleveland, *The Bulletin of the Cleveland Museum of Art* 54/3: 67-88.
- YAGODIN, V.N., BETTS, A.V.G., KIDD, F., BAKER BRITE, E., KHOZHANIYAZOV G., AMIROV, SH.SH. & FRAY, G., 2009. Karakalpak-Australian excavations in Ancient Chorasmia. An interim report on the Kazakly-yaktan wall paintings: the 'Portrait' Gallery, *Journal of Inner Asian Art and Archaeology* 4: 7-41.
- YARDEN, L., 1991. *The spoils of Jerusalem on the Arch of Titus: a re-investigation*, Stockholm.
- ZAV'YALOV, V.A., 1996. Excavation of Kaladzhik-Tepe in Khoresm, *Ancient Civilizations from Scythia to Siberia* 3/2-3: 298-317.

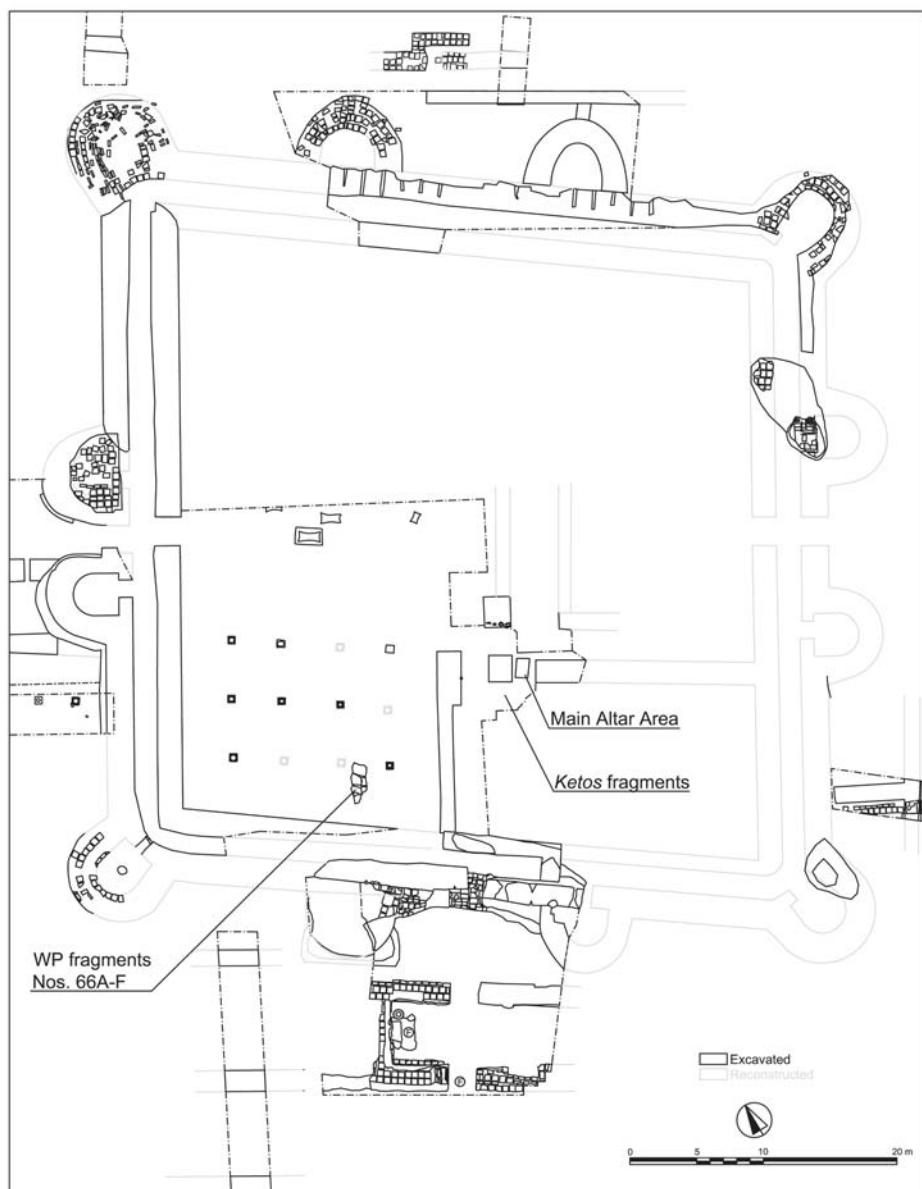


Pl. 1. Geographical outline of Ancient Chorasmia with location of main archaeological sites.

Takir surfaces with canals and structures



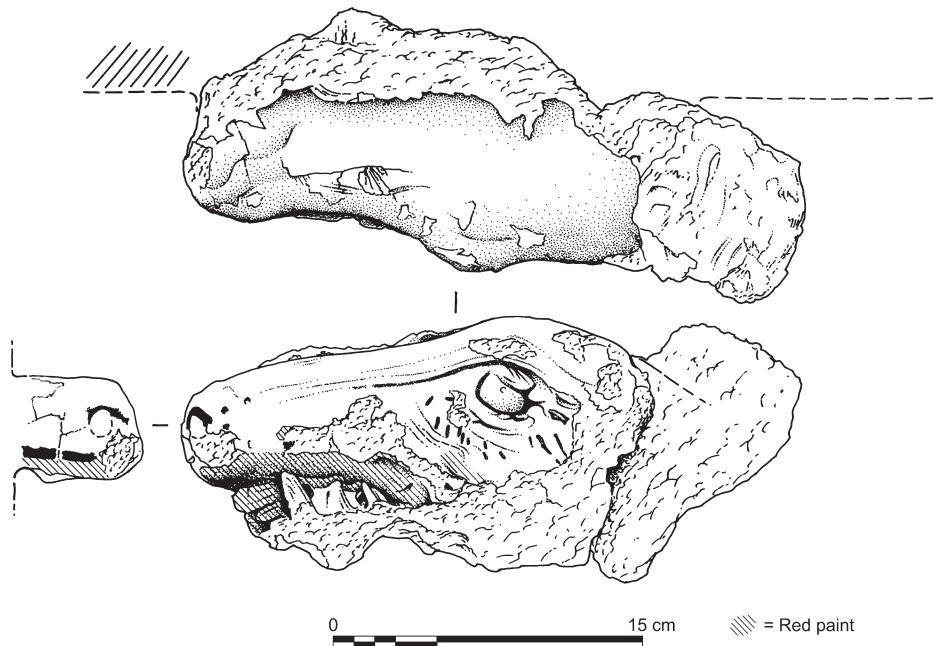
Pl. 2. General plan of Akchakhan-kala with excavation areas.



Pl. 3. Plan of the Central Building of the Ceremonial Complex of Akchakhan-kala (Area 10) with location of finds.



Pl. 4 a & b. The two fragments of *ketos* from the Ceremonial Complex of Akchakhan-kala.



Pl. 5. Drawing of the Chorasmian *ketos*' head (by D.W. Hopkins).